

2026 Akita University Faculty of Medicine Syllabus

Category	: 臨床医学 VII (CC2)
Course Title	: Clinical Clerkship II Cardiovascular surgery
Eligible Students	: grade 6 Elective Course
Code	: 71644006-10

1. Lead Instructor

Hiroyuki Nakajima (Professor, Cardiovascular surgery, 6135, Office Hour: 8:00-17:30)

2. Instructors

Hiroyuki Nakajima (Professor, Cardiovascular surgery, 6135, Office Hour: 8:00-17:30)

Daichi Takagi (Lecturer, Cardiovascular surgery, 6135, Office Hour: 8:00-17:30)

Genbu Yamaura (Assistant Professor, Cardiovascular surgery, 6135, Office Hour: 8:00-17:30)

Kentaro kiryu (Assistant Professor, Cardiovascular surgery, 6135, Office Hour: 8:00-17:30)

Takashi Arai (Medical Doctor, Cardiovascular surgery, 6135, Office Hour: 8:15-17:30)

3. Course Description Outline(Course Objectives)

1. Outline and aims

As members of our teams, students will acquire practical skills in clinical reasoning, differential diagnosis, and decision making for examination and treatment of syndromes and pathological conditions in the field of surgery, especially cardiovascular surgery, which are necessary for future physicians in any field.

In addition, students will learn about medical behavioral science, medical ethics, medical safety, medical law (medical system), and EBM.

2. Outline

- Students should work actively as members of a medical team led by a supervisor, and acquire basic knowledge and skills in cardiovascular surgery.

- Students will be trained to collect information, identify and interpret problems (clinical reasoning), and formulate solutions (diagnosis and treatment).

(1) Clinical clerkship in a ward

Students will be assigned to a medical team for one week and are responsible for one postoperative patient in a ward (mainly in intensive care units) under the supervision of a medical advisor.

Under the guidance of the supervising physician, the students make daily rounds of the patients, and learn basic medical treatment by identifying problems through medical interviews and physical examinations, clinical reasoning, and the contents of medical treatment in the medical record. In particular, students will learn the dynamics of respiration and circulation in the acute phase after cardiovascular surgery by treating postoperative patients.

(2) Participation in outpatient care, various examinations, and treatment such as surgery

Each practice group will be in charge of one surgical patient. Students will learn preoperative examinations, surgical indications and procedures, surgical observation, and postoperative management as members of a medical team.

3. Learning objectives

In addition to the above outlines and aims, the following is a list of syndromes, conditions, and procedures that are particularly important in this department.

1) Symptoms and conditions. Clinical reasoning

(1) Postoperative circulatory and respiratory failures (2) Shock (3) Edema (4) Pleural effusion (5) Chest pain (6) Dyspnea (7) Palpitation

2) Basic clinical procedures

(1) Skin disinfection

- (2) Training central venous catheter insertion through observation and assistance.
- (3) Collecting arterial blood from the arterial line, performing blood test, and making clinical inferences.
- (4) Preparing medical records and conference papers.
- 3) Examination procedures
 - (1) Recording a 12-lead electrocardiogram.
 - (2) Performing blood gas analysis.
- 4) Surgical techniques
 - (1) Performing aseptic manipulation
 - (2) Washing hands (hand scrubbing) for surgery and procedures
 - (3) Performing gown techniques in the operating room
 - (4) Disinfecting the wounds and changing gauzes
 - (5) Observing surgery (as an assistant). Pre-operative management
- 5) Medical behavior, medical ethics, medical safety, medical law, and EBM
 - (1) Informed consents for various examinations and treatments: Participating in the informed consent procedure for surgery.
 - (2) Obtaining consent forms for CT and other procedures from patients and their families under a supervisor.

This subject is a lesson subject by a teacher with practical experience.

4. **Textbook/Reference Books**

Robert M Bojar. Manual of perioperative care in adult cardiac surgery, 5th Ed. Wiley-Blackwell
 Japan Circulation Society (JCS) Guidelines

5. **Assessment**

Evaluating the student's ability understanding of the knowledge regarding diseases and surgical procedures through

- 1) a student's presentation ability in a preoperative conference,
- 2) daily checking of patient's examinations and medical records.

6. **Out of Class Study/Message**

In this course, students, if they wish, will be able to join postoperative management with on-duty doctors as an out of class study.

Students should record logbook of the clinical clerkship.

心臓血管外科学 臨床実習

Schedule			Contents of Class
1	Mon [8:00-17:00] Clinical clerkship surgery Daichi Takagi, Hiroyuki Nakajima	cardiovascular	08:00 Morning conference (Conference room of cardiovascular surgery department) 09:00 Orientation 10:00 ~ Observing surgery, Patient examination, Making medical records
2	Tue [8:00-17:00] Clinical clerkship surgery Daichi Takagi, Hiroyuki Nakajima	cardiovascular	08:00 Morning conference 10:00 ~ Patient examination, Making medical records 13:00 ~ 16:00 Preparing for a presentation about a preoperative patient. 16:00 Evening conference
3	Wed [8:00-17:00] Clinical clerkship surgery Daichi Takagi, Hiroyuki Nakajima, Gembu Yamaura	cardiovascular	08:00 Morning conference 10:00 ~ Patient examination, Making medical records 13:00 ~ 17:00 Preparing for a presentation about a preoperative patient.
4	Thu [8:00-17:00] Clinical clerkship surgery Daichi Takagi, Hiroyuki Nakajima	cardiovascular	08:00 Morning conference 10:00 ~ Observing surgery, Patient examination, Making medical records
5	Fri [8:00-17:00] Clinical clerkship surgery Daichi Takagi, Hiroyuki Nakajima	cardiovascular	08:00 Morning conference 10:00 ~ Observing surgery, Patient examination, Making medical records
6	Mon [8:00-17:00] Clinical clerkship surgery Daichi Takagi, Takayuki Kadohama, Fuminobu Tanaka	cardiovascular	08:00 Morning conference (Conference room of cardiovascular surgery department) 10:00 ~ Observing surgery, Patient examination, Making medical records
7	Tue [8:00-17:00] Clinical clerkship surgery Daichi Takagi, Takayuki Kadohama, Fuminobu Tanaka	cardiovascular	08:00 Morning conference 10:00 ~ Patient examination, Making medical records 13:00 ~ 16:00 Preparing for a presentation about a preoperative patient. 16:00 Evening conference
8	Wed [8:00-17:00] Clinical clerkship surgery Daichi Takagi, Takayuki Kadohama, Fuminobu Tanaka	cardiovascular	08:00 ICU round 08:30 Morning conference 10:00 ~ Patient examination, Making medical records 13:00 ~ 17:00 Preparing for a presentation about a preoperative patient.
9	Thu [8:00-17:00] Clinical clerkship surgery Daichi Takagi, Takayuki Kadohama, Fuminobu Tanaka	cardiovascular	08:00 ICU round 08:15 Morning conference 10:00 ~ Observing surgery, Patient examination, Making medical records
10	Fri [8:00-17:00] Clinical clerkship surgery Daichi Takagi, Takayuki Kadohama, Fuminobu Tanaka	cardiovascular	08:00 Morning conference 10:00 ~ Observing surgery, Patient examination, Making medical records
11	Mon [8:00-17:00] Clinical clerkship surgery Daichi Takagi, Takayuki Kadohama, Fuminobu Tanaka	cardiovascular	08:00 Morning conference (Conference room of cardiovascular surgery department) 10:00 ~ Observing surgery, Patient examination, Making medical records
12	Tue [8:00-17:00] Clinical clerkship surgery Daichi Takagi, Takayuki Kadohama, Fuminobu Tanaka	cardiovascular	08:00 Morning conference 10:00 ~ Patient examination, Making medical records 13:00 ~ 16:00 Preparing for a presentation about a preoperative patient. 16:00 Evening conference

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Schedule		Contents of Class
13	Wed [8:00-17:00] Subtitle Clinical clerkship cardiovascular surgery Instructor Daichi Takagi, Takayuki Kadohama, Fuminobu Tanaka	08:00 ICU round 08:30 Morning conference 10:00 ~ Patient examination, Making medical records 13:00 ~ 17:00 Preparing for a presentation about a preoperative patient.
14	Thu [8:00-17:00] Subtitle Clinical clerkship cardiovascular surgery Instructor Daichi Takagi, Takayuki Kadohama, Fuminobu Tanaka	08:00 ICU round 08:15 Morning conference 10:00 ~ Observing surgery, Patient examination, Making medical records
15	Fri [8:00-17:00] Subtitle Clinical clerkship cardiovascular surgery Instructor Daichi Takagi, Takayuki Kadohama, Fuminobu Tanaka	08:00 Morning conference 10:00 ~ Observing surgery, Patient examination, Making medical records
16	Mon [8:00-17:00] Subtitle Clinical clerkship cardiovascular surgery Instructor Daichi Takagi, Takayuki Kadohama, Fuminobu Tanaka	08:00 Morning conference (Conference room of cardiovascular surgery department) 10:00 ~ Observing surgery, Patient examination, Making medical records
17	Tue [8:00-17:00] Subtitle Clinical clerkship cardiovascular surgery Instructor Daichi Takagi, Takayuki Kadohama, Fuminobu Tanaka	08:00 Morning conference 10:00 ~ Patient examination, Making medical records 13:00 ~ 16:00 Preparing for a presentation about a preoperative patient. 16:00 Evening conference
18	Wed [8:00-17:00] Subtitle Clinical clerkship cardiovascular surgery Instructor Daichi Takagi, Takayuki Kadohama, Fuminobu Tanaka	08:00 ICU round 08:30 Morning conference 10:00 ~ Patient examination, Making medical records 13:00 ~ 17:00 Preparing for a presentation about a preoperative patient.
19	Thu [8:00-17:00] Subtitle Clinical clerkship cardiovascular surgery Instructor Daichi Takagi, Takayuki Kadohama, Fuminobu Tanaka	08:00 ICU round 08:15 Morning conference 10:00 ~ Observing surgery, Patient examination, Making medical records
20	Fri [8:00-17:00] Subtitle Clinical clerkship cardiovascular surgery Instructor Daichi Takagi, Takayuki Kadohama, Fuminobu Tanaka	08:00 Morning conference 10:00 ~ Observing surgery, Patient examination, Making medical records